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Evaluation of a digital story pedagogical module for the indigenous learners using the stake countenance model

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Abstract

This study involved the development of a literacy pedagogy for the indigenous people in Malaysia. The Developmental Research Approach was used where insights about the indigenous people and their lifestyle were gathered and analysed for content in developing a literacy pedagogical module. Several principles emerged from the data collected and these principles formed the basis for the module. The module encompassing a digital story was implemented in two schools for indigenous students situated in Peninsular Malaysia. The Stake Countenance model was used to analyse and conclude the evaluation of the module. Both teachers and students who participated in the module implementation were directly involved in the evaluation process. Findings showed that there was strong engagement between the Indigenous students and the lessons in the module. The teachers found that the module was able to respond to the needs of the indigenous students. This paper will discuss the evaluation process in detail and present the findings with reference to educational needs of the indigenous students in the country as a whole.

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1. Introduction

Literacy practices among children today are embedded in textual environments which are complex (Healy, 2002). This is due to the dynamic development of multi-literacies and multimodalities which have a profound impact in the lives of young children today. Text is no longer associated with written messages and symbols alone.

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Transformation in digital technologies has expanded the definition of text to include various other multi modal features (Larson, 2009). Research in the area of literacy and technology indicates that there is significant difference in the way readers approach digital texts as compared to printed texts (Bailey, 2006, in McVee, Bailey, & Shanahan 2008; Healy, 2002; Tseng, 2008). This is attributed to several reasons; first, the textual artefacts and accompaniments of digital technology make a difference to the ways in which text is read (Healy, 2002). Healy explains that electronic texts are composed of info-graphic structure with the integration of image, sign, and audio. This makes the text rich and non-linear in structure which also requires the reader to use multiple strategies when reading. Next, meanings in multimedia text are not fixed and additive (the word meaning plus the picture meaning) but multiplicative (word meaning modified by image context, image meaning modified by textual context), making the whole far greater than the simple sum of its parts (Bailey, 2006, in McVee et al., 2008).

Given this development in literacy, there is a great implication on literacy pedagogy. ELT methodology has to embrace this development or face the risk of being irrelevant to a society made up of different layers of communities whose cultures and life experiences differ from one another. In Malaysia, the indigenous group is a particular community that is of concern for the government. It has been noted that the literacy level and learning achievement among the Indigenous children is low in Malaysia (UNICEF Malaysia, 2008). The illiteracy rate among the Indigenous children is also alarming. Redzuan and Gill (2008) reported that the illiteracy rate among this group is 49.2% compared to 6.4% at the national level. Another serious problem of the Indigenous people is the high dropout rate. About 62% of Indigenous children drop out of school every year and 94.4% do not complete secondary school (Kamarulzaman Kamarudin & Osman Jusoh, 2008). The percentage of passes among the Indigenous children in Year 6 is between 43% to 59% compared to 78% at the national level. This calls for serious attention and the government of Malaysia has taken several initiatives in addressing the issue.

The National Education Blueprint 2013-2025 has specified various efforts to provide equal facilities and education to both rural and urban schools. It is crucial that steps are taken to improve the standard of education among the Indigenous students. One such effort is to look at ways to increase their literacy by making reading materials effective and relevant to their context. This paper discusses an initiative to design a literacy pedagogy to facilitate literacy among indigenous learners. This paper will present findings from a research carried out with a group of indigenous people in Malaysia. The Developmental Research Approach was used where insights about the indigenous people and their lifestyle were gathered and analysed for content in developing a literacy pedagogical module. Several principles emerged from the data collected and these principles formed the basis for the module. The module encompassing a digital story was implemented in two schools for indigenous students situated in Peninsular Malaysia. The Stake Countenance model was used to analyse and conclude evaluation of the module. Both teachers and students who participated in the module implementation were directly involved in the evaluation process. Findings showed that there was strong engagement between the Indigenous students and the lessons in the module. The teachers found that the module was able to respond to the needs of the indigenous students. This paper will discuss the evaluation process in detail and present the findings with reference to educational needs of the indigenous students in the country as a whole.

2. Theoretical framework

The present study was guided by the schema theory. The schema theory describes comprehension as a process of interaction between the text and the reader's background knowledge (Carrel & Eisterhold, 1983). Carrel and Eisterhold (1983) argued that text by itself does not bring meaning but it is the reader who relates the text to the existing acquired knowledge to construct meaning.

Text comprehension as a process is based on the principle that every input is mapped against some existing schema which should be compatible with the input. The schema or schemata is organized from the most general at the top to the most specific at the bottom. This organization helps to explain the two modes of information processing: bottom-up and top-down processing. Bottom-up processing involves the bottom level schemata and the incoming data. This stage is called data-driven. The top-down processing involves higher level general schemata where the system makes general predictions and searches for more detailed information from the specific schema to fit in the general idea. This stage of processing is called conceptually driven. Both the bottom-up and top-down should be occurring at the same time, one facilitating the other.

Brown (2001) describes two types of schema; content schema and formal schema. Content schema includes knowledge about people, the world, culture and the universe. Formal schema is knowledge about the discourse structure. Content schema refers to understanding of the text and the cultural elements needed to interpret it. This

cultural element is a major aspect that influences the understanding of a text (Carrell, 1983, in Ahmad, 2006). Carrell suggests that reading teachers should ascertain that the reading text matches the student's culture.

In view of the schema theory, Coady (1979) in Carrell et al. (1996) described reading as an interpretive process. Coady explained how the reader's background knowledge interacted with their conceptual abilities and process strategies in comprehending the text. Readers are able to understand better because they can take the text beyond its graphic representation and assign the task to the knowledge and concepts already stored in the memory. This is further supported with the attitude and beliefs the readers bring to the text. Therefore, Coady suggested that the linguistic ability together with the knowledge of the world enables the reader to comprehend the text. This interaction can be seen in Figure 1.

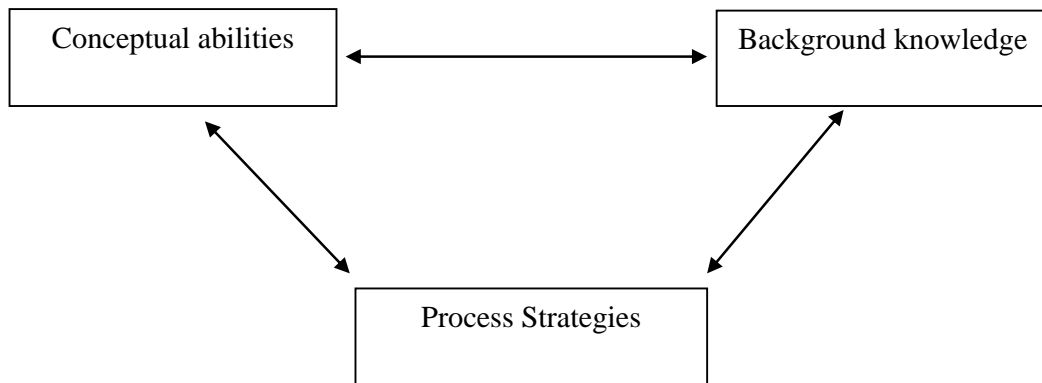


Figure 1. Coady's (1979) model of the ESL Reader.

Content knowledge of a second language learner is often culture-specific (Carrell & Eisterhold, 1983). Thus, it is important to provide text familiar to the learner and to which the learner can relate. One method of maximizing learners' cultural schema is by using the students' own ideas and words in the reading text as proposed by the Language Experience Approach (Rigg, 1981, in Carrell & Eisterhold, 1983). The other method is by developing reading material with the local settings and specialized low frequency vocabulary. This method is important for learners with low proficiency who need facilitation in vocabulary. Finally, previewing is another activity that helps to activate the prior knowledge (Carrell & Eisterhold, 1983). Showing familiar pictures and vocabulary, for instance, helps the reader in understanding the text.

McVee, Dunsmore, and Gavalek (2005) reviewed the influence of cultural perspectives on learners' schema. Reviewing the work by Bartlett (1925), McVee et al. pointed out that one's schema or understanding of the world is formed through transactions with the outside world. This transaction includes the cultural practice of the learners. In fact, schema is defined as formed within individuals, in the head (McVee et al., 2005, p. 556). In explaining the origin of schema, McVee et al. stressed that schemas or cognitive structures emerge or transform as a result of transactions with the world through material and ideational means.

3. Methodology

The study adopted the Developmental Research design which has a clear outline of design strategies, systematically divided into several phases. Van Den Akker (1999) has outlined three major stages in the developmental research approach. In the present study, phase 1 involved inquiry into the needs of the Orang Asli students in relation to reading comprehension in the English language. The participants in the needs analysis phase were ten English language teachers from Orang Asli schools. Classroom observations were carried out to gain information on the current pedagogy in reading comprehension as well as to identify the needs of the Orang Asli students with regard to reading comprehension. Phase 2 was the design and the development phase where the DS pedagogical module was designed and developed. This involved interviews with experts from various related fields such as from the Orang Asli context, the teaching of English language and the use of technology in education. Observation of everyday events in the context of the Orang Asli community were also integrated in the module. Upon completion of the module development, a team of experts reviewed the module. Finally phase 3 was

the module implementation and evaluation. The module was implemented in two contexts with the same population of Orang Asli, the Temuan community. The Stake Countenance model was used to evaluate the module.

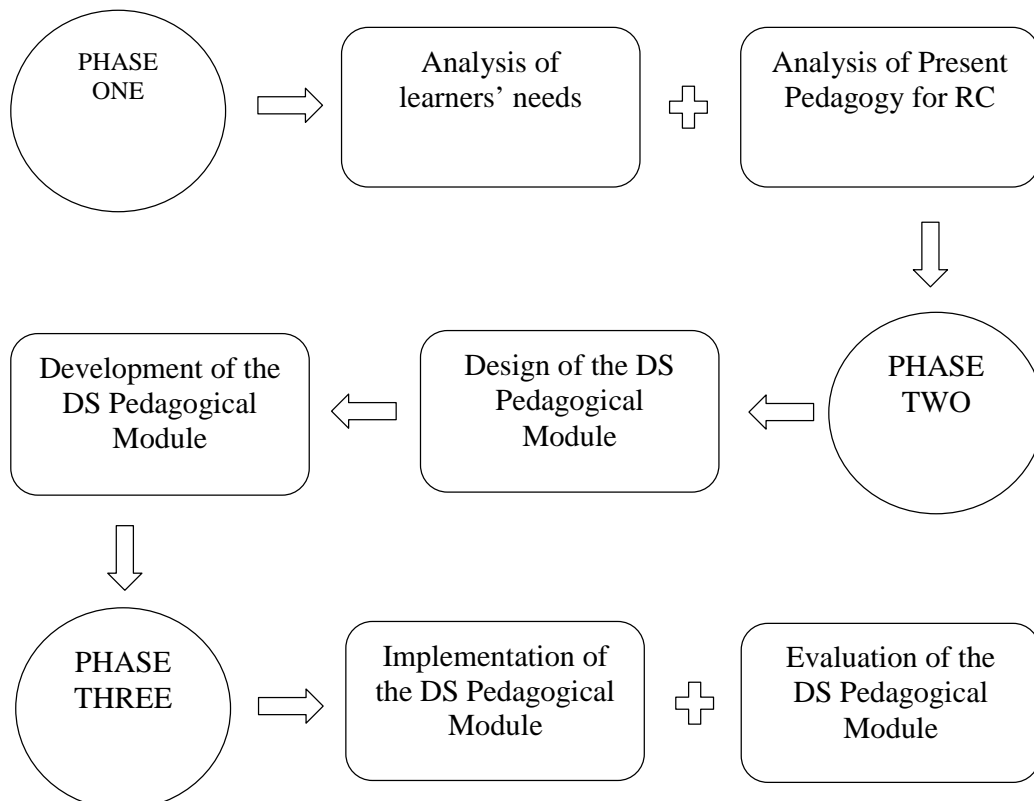


Figure 2 Summary of phases in the present study.

4. Research questions

The research questions which guided the third phase of the study were:

1. What is teachers' evaluation of the DS pedagogical module according to the Stake Countenance model?
 - a) What are teachers' expectations of the DS pedagogical module before its implementation?
 - b) What are teachers' opinions of the DS pedagogical module after its implementation?
 - c) What is the congruence between teachers' expectations before the implementation of the module and teachers' opinions after implementation?

5. Description of the stake countenance model

The Stake Countenance model is often used as a framework for evaluation. This model involves two major operations or countenances which is complete description and judgement of the program. The Stake model provides a framework for evaluators in collecting, organizing and interpreting data. The framework has three components which are antecedent, transaction and outcome. Antecedent is the condition existing prior to instruction. Transactions refer to successive engagements in the process of instruction and outcomes are the effects of instruction. The present study was evaluated based on this model where two teachers were interviewed before and after the module was implemented. An analysis of congruence between the two phases of interviews was carried out to obtain judgement regarding the use of the module in facilitating reading comprehension. Description of the lessons through observations as well as student response was done and this explained the transaction process as depicted in the model. Figure 3 is a description of the Stake Countenance Model used in the present study.

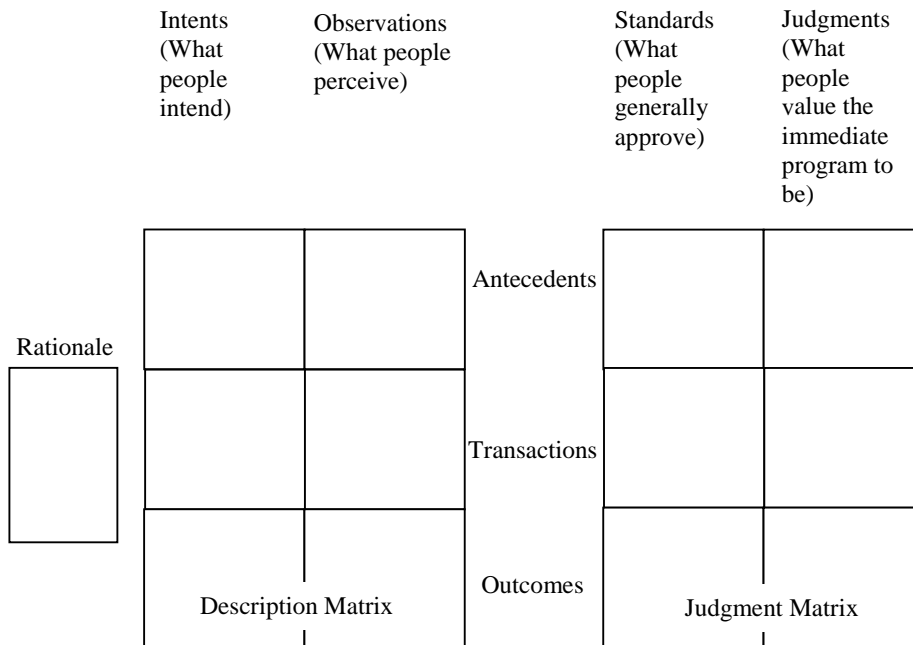


Figure 1.2. Stake's Format for Collecting Data to be used in evaluating an Educational Program.

The Stake Countenance Model is appropriate for the present study because the model provides space for description that reflects the fullness, the complexity and the importance of a program (Stufflebeam & Shinkfield, 1985). This description is necessary to evaluate the usability of the DS pedagogical module.

6. Findings from the evaluation phase using the stake countenance model

The evaluation phase consisted of interview sessions which were categorized into six aspects: reading text, content, language, comprehension strategy, comprehension task and teaching as well as learning instruction. There were two rounds of interviews: the first round was conducted as antecedent data while the second round was after the transaction where the module was implemented. This section discusses the analysis of congruence between teachers' expectations before and after the module implementation.

Teachers' expectations before and after implementation of the DS pedagogical module

Interview sessions were carried out with both teachers from context A and B to seek information on their expectations and views of the DS pedagogical module. The teachers' expectations were analyzed according to five categories found in the DS pedagogical module

The following Table 1 describes the findings before and after the module implementation.

Table 1: Teachers' Views Before and After Module Implementation

Categories	Teachers' expectation of the module before the implementation of the module.	Teachers' views after the implementation of the module.
<i>Type of text</i>	In the form of a story In the electronic medium Should have a lot of colorful pictures. The story should have illustrations to aid comprehension. Should have digital effects such as sound effects, 3D effects and authentic material.	text of the digital story was interesting and relevant to the students in the context of the study. text had been presented in an interesting manner.
<i>Content</i>	The themes should be related to the Orang Asli life. Should include some cultural elements	suitable and relevant to the students the story as realistic and within their context.

	<p>which reflected the context of the Orang Asli community.</p> <p>The setting should be like their home.</p> <p>Should include songs and music.</p>	<p>the content was context specific and the students were able to make connection with the text.</p> <p>cultural element in the digital story which was related to the Orang Asli way of life the culture of staying in the jungle for a period of time to find things. This culture could be seen in the digital story.</p> <p>subject about their culture helped the students in understanding</p>
<i>Language</i>	<p>Should be simple and relevant to the context of the Orang Asli students.</p> <p>The vocabulary should be at lower level.</p> <p>The dialogue should be a mix of English language, Bahasa Melayu and the Temuan language.</p> <p>The sentences should be in the simple form and not too complicated.</p>	<p>The language was simple and the students were able to understand the story</p> <p>The meanings had been translated into their language. This facilitated the understanding.</p> <p>Language was simple. The students could understand the story.</p>
<i>Reading Comprehension Task</i>	<p>The task should be interesting and relevant to their needs.</p> <p>The task should also emphasize a lot of repetition.</p> <p>The text should have reading task in the form of games and activities.</p> <p>Interactive activities using the computer will be good.</p>	<p>The activities were relevant and useful in helping the students in comprehending the text.</p> <p>The students could respond very well on the task</p> <p>A lot of activities, interactive and related to the text and students were able respond well.</p> <p>Instructions for the teaching and learning activities were clear.</p> <p>The bamboo task was connected to their lifestyle.</p> <p>There was a difference in the way the students responded to the lesson...they were active and interested.</p>

An analysis of the congruence between the expectations before the implementation and teachers' opinion after the DS pedagogical module was implemented in the two schools was done. Analysis was focused on the same five areas: type of text, content, language, comprehension strategy and comprehension task.

7. Implications of the study

1) Material production for Orang Asli primary school students.

Indigenous students learn better with indigenous material. Rushton (2007) proposed this notion after working with several cases of indigenous students in New Zealand. The reading text was based on the cultural context of the indigenous students and this improved students' learning. Rushton concluded that familiarity of a text is important as it gives the learners opportunity to participate and understand better.

'Familiarity' is a concept related to the schema of the learners and research has proven the positive role of learners' schema or background knowledge in reading comprehension (Ahmad 2006; Brown, 2001; Carrell et al. 1983 & Holliday, 1997). The content schema of a learner includes knowledge of the learners' context and experience. In reading comprehension, this knowledge must be activated and the reading text has to allow this to happen. Therefore, content of the text should be related to the learners' background knowledge. In the present study, the reading text was designed based on the Temuan students' context which included their environment, experiences and issues. The digital story has the forest and their environment as the bigger theme as well as how they lived close with nature. When they were given a reading task based on the use of bamboo, the students were able to relate so

much of information as bamboo hunting was part of their cultural experience. This experience is part of their schema and it facilitated their response.

Apart from the content, the language was carefully used to facilitate their understanding of the text. Simple sentences and vocabulary from the context are used in the story. Furthermore, the Temuan language at word level was also included to aid meaning. All these elements of language as suggested by the experts were integrated in the DS pedagogical module to facilitate comprehension of the digital story. Findings from the evaluation of the module do show that the students were able to comprehend the digital story. As such, it is important that reading text for the indigenous students should be designed based on their context.

2) The need for a culturally responsive pedagogy.

A culturally responsive pedagogy recognizes cultural knowledge, prior experiences and values of the community concerned (Jazadi, 2003 & Johnson, 2011). It has the learner's context and experience playing a central role in the learning process. Research in this area has proven that instruction through responsive pedagogical model has positive impact on students' knowledge and skill (Allen et al., 2002 & Janzen, 2009). The present study has involved not only the context of the Temuan students in the digital story, the students themselves have played the role of some of the characters in the story. This participation has created excitement and motivation among the students during the reading lessons. As noted by the teacher, the students were able to understand the reading text because they were part of the story and the context was familiar to them.

3) Digital text to facilitate comprehension.

Meaning making in a multi modal text involves more than words; a variety of semiotic structures such as the visual, auditory and kinesthetic is needed (Eisner, 1985 in Sithamparam, 2005). Sithamparam, 2005 also suggested that alternative forms of representation should be used to aid the meaning making process in a text. A digital text has positive impact on learners' involvement in the reading process (Gordon, 2009; Grabe, 1996 & Grabinger, 1996).

In this study, a digital text was designed to teach reading and the findings show that the Temuan students enjoyed reading the text as well as were able to comprehend the story. The students mentioned that they liked reading the story as they could see the character climbing trees, swimming, playing and so forth. The story was presented as a movie with narration and music as well as sound effects. This caught the students' attention. They were able to recapture the story with the details in the reading task. Thus, as this study has proven, more digital text should be designed to teach reading. Effort should be taken to include multiple forms of structures in ways that can facilitate comprehension.

8. Conclusion

This research has proven that a culturally responsive pedagogy recognizes cultural knowledge, prior experiences and values of the community concerned. The learner's context and experience play a central role in the learning process. The present study involved the indigenous learners and community as a major part of the content creation. This participation created excitement and motivation among the learners. The use of the Stake Countenance Model to evaluate the DS module was most appropriate and accurate in capturing teachers' needs and expectations. The evaluation process was conducted systematically and analysis of findings was managed appropriately. It is highly recommended that other impact study specifically in the education field utilizes the Stake Countenance model.

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